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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,911	07/28/2003	Colin Chee Chong Hin	70010991-1	8101

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AGILENT TECHNOLOGIES, INC.
Intellectual Property Administration
Legal Department, DL429
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EXAMINER

MOUTTET, BLAISE L

ART UNIT PAPER NUMBER

2853

DATE MAILED: 11/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/628,911	Applicant(s) CHONG HIN, COLIN CHEE	
	Examiner Blaise L. Mouffet	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20-24 is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/2/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The IDS submitted February 2, 2004 has been considered by the examiner.

Drawings

2. The replacement drawings were received on February 2, 2004. These drawings are acceptable.

Claim Objections

3. Claims 7 and 15 are objected to because of the following informalities:

In claim 7 "said feed mechanism" lacks antecedent basis from claim 1. It is suggested that applicant include limitations similar to that found in claim 2 to provide antecedent basis.

In claim 15 "initial position determined" should read --initial position is determined-- to obtain proper syntax.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6, 8, and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by Kawase et al. GB 2 379 414 A.

Kawase et al. discloses, regarding claim 1, a system for printing (figure 5, note: while Kawase et al. teaches the application of an inkjet printhead in the formation of a flexible display using the deposition of polymeric materials this is still well within the generic definition of "printing" and, in any case, recited intended use in the preamble does not limit apparatus claims over prior art structure when the prior art structure is clearly capable of performing the intended use, see MPEP 2111.02), the system comprising:

an optical sensor (16) that is movable (the CCD sensor 16 is movable via gantry 4 as explained in page 19, lines 10-12 and page 20, lines 25-29) relative to a print medium (flexible substrate 30 printed on by print heads 20); and

a mark (one of the alignment marks 11) visible to the optical sensor (16) within the range of movement of the optical sensor, the mark providing a fixed and known location that can be used to establish a position of the optical sensor (figure 5, page 22, lines 3-5).

Regarding claim 2, a feed mechanism (10) transports the print medium (30) and comprises a roller wherein the mark (11) is located on the roller (figure 5, page 20, lines 25-29).

Regarding claim 3, the mark (11) on the roller (10) is visible to the optical sensor (16) during transport of the print medium (30) (page 20, lines 25-29).

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Regarding claims 4 and 5, the mark is one of a plurality of marks (11) located at fixed and known positions along the roller length including both ends of the roller (figure 5) and the optical sensor is positioned to sense the marks (page 20, lines 25-29).

Regarding claim 6, a second optical sensor (further CCD camera 16) is taught to be positioned so as to sense information from the print medium (30) (page 22, lines 6-8).

Regarding claim 8, the optical sensor (16) is adapted to sense information (33) from the print medium (30) used to determine a position of the optical sensor (page 22, lines 3-5).

Regarding claim 9, the positional information obtained from the alignment marks (33) from the print medium (30) is corrected using positional information obtained from alignment marks (11) on the roller (10) (page 21, lines 10-17).

5. Claims 1 and 8-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Courtney US 5,127,752.

Courtney discloses, regarding claim 1, a system for printing comprising:

an optical sensor (10) that is movable relative to a print medium (20) (figure 1, column 5, lines 12-24); and

a mark (16) visible to the optical sensor (10) within the range of movement of the optical sensor, the mark providing a fixed and known location (home position) that can be used to establish a position of the optical sensor (column 6, lines 22-26).

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Regarding claim 8, the optical sensor (10) is adapted to sense information (De) from the print medium (column 6, lines 26-28).

Regarding claim 9, the position determined according to the information (De) sensed from the print medium is corrected using the position established according to the mark (figure 12).

Regarding claim 10, the position determined according to the information sensed from the print medium is used for determining a rotational mounting error (skew) of the print medium relative to the optical sensor (figure 2, column 5, lines 25-33, column 6, lines 28-43).

Regarding claim 11, the optical sensor is mounted for scanning with an inkjet printhead and the sensor establishes a position of the printhead (column 2, lines 58-68, column 4, lines 10-13).

Courtney discloses, regarding claim 12, a method for correcting a position of a printhead (PH) in a system for printing comprising:

establishing an initial position (Dh) of the printhead (figure 12, corresponds to the home position determination);

estimating a second position of the printhead (the estimated start print position obtained from the paper left edge detection information De) based on information sensed as the printhead moves relative to a print medium (20) (figure 12); and

using a first marker (16) in a known location to determine an error associated with the second position (figure 12, column 6, lines 19-45).

Regarding claim 13, in the embodiment of figure 11, an initial position of the printhead is established (the home position), a second position of the printhead is estimated (the estimated start print position based on the left edge detection) using marker (16), a third position of the printhead is estimated (the estimated stop print position based on the right edge detection), and an error associated with the second position (the error corresponds to the size of the print field not fitting with the paper size) is used to correct the estimated second and third positions (corresponding to the re-sizing step at the bottom of figure 11).

Regarding claims 14 and 15, the initial print position is established using the detection of the marker (16) and the print medium edge (figure 12, column 6, lines 22-32).

Regarding claim 16, the initial position is determined using the first marker (16) in a known location and a second marker (the change from black to white occurring at the left edge of the media is considered as a "marker") (figure 12).

Regarding claim 17, the printhead moves with an optical sensor adapted to detect the first marker (column 7, lines 45-53).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase et al. GB 2 379 414 in view of Marinoff US 4,207,578.

Kawase et al. discloses the limitations of claim 1 as explained in the 35 USC 102 rejection above with the marks (11) formed on a first roller (10) of a feed mechanism. Kawase et al. uses a vacuum drum and inkjet printheads in the disclosed system (abstract) indicating that teachings relevant to inkjet printing and vacuum drums used in inkjet printing are relevant.

Kawase et al. fails to disclose a second roller.

Marinoff discloses a vacuum roller (12) for inkjet devices conveyed over a drum by worm (20) (analogous to the gantry system of Kawase et al.) and second and third rollers (36, 37) used with the vacuum roller to form a feed mechanism for a print medium (figure 1, column 4, lines 4-8).

It would have been obvious for a person of ordinary skill in the inkjet art at the time of the invention to utilize the print media feed mechanism of Marinoff as the feed mechanism of Kawase et al.

The motivation for doing so would have been to enable feeding of the print media to the vacuum roller from a supply stack of print media as taught by Marinoff.

Additional Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Khormae US 5,397,192 discloses a printing system with registration marks (70, 72) imprinted on a stationary platen (12) to establish printhead (40) position via an optical sensor (50).

King et al. US 6,604,808 discloses a methodology for determining the skew of a printhead using printed test marks and an optical sensor.

Allowable Subject Matter

8. Claims 20-24 are allowable.

Claims 18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 18 and 19, while utilizing markers on rollers of printing systems is evidenced in the prior art by Kawase et al. and the method of claim 12 is evidenced by Courtney as explained in the above rejections it is seen to be non-obvious to combine these teachings so as to produce the claimed invention because the stationary platen media holding structure in which the method of Courtney is performed is not seen to be reasonably analogous to the moving drum media feed structure as shown by Kawase et al. and no reasonable motivation can be found in the prior art of record to combine these teachings so as to produce the claimed inventions.

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Regarding claims 20-24, the step of identifying any difference between a position of the optical sensor and printhead based on the direction of relative motion and the position of the optical sensor and printhead estimated using the information sensed from the print medium, the difference indicating presence of a rotational mounting error is not found in the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Blaise Mouttet who may be reached at telephone number (571) 272-2150. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier, Art Unit 2853, can be reached at (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Blaise Mouttet November 8, 2004

Blaise Mouttet 11/08/2004